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ABSTRACT OF THE DISCLOSURE

A dehydration and consolidation furnace and a dehydration and consolidation method in which gas in a chamber does not leak to a furnace body room and gas in a furnace body room does not leak into a chamber is provided.

- 5 A furnace of one embodiment of this invention has first muffle tube 3 and second muffle tube 4. The second muffle tube 4 is arranged coaxially around the first muffle tube 3. An optical fiber preform is arranged in this furnace. During the dehydration and consolidation process the pressure of the intermediate room 10 is set lower than a pressure inside the first muffle tube and outside the second muffle tube, and a gas supply and exhaust of the intermediate room 10 are performed independent of the gas supply and exhaust of the first muffle tube and a furnace body room.

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